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| 09/778,993 | 02/07/2001 | Mitsuo Nimura | CANO:019 | 2390 |

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ROSSI & ASSOCIATES
P.O. Box 826
Ashburn, VA 20146-0826

EXAMINER

PHAM, THIERRY L

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| ART UNIT | PAPER NUMBER |
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2625

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/778,993

Applicant(s)

NIMURA ET AL.

Examiner

Thierry L. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE dated 10/13/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 14-23 and 40-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 14-23, 40-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

- This action is responsive to the following communication: RCE filed on 10/13/06.
- Claims 1-10, 14-23, 40-45 are pending; claims 11-13 & 24-39 have been canceled.

Continued Prosecution Application

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/13/06 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, 14-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al (US 5159546), and in view of York et al (US 4602776), and further in view of Coons et al (US 5207412).

Regarding claim 1, Inoue discloses an image forming apparatus (*fig. 2a*) comprising:

- inputting means (*scanner, fig. 1*) for reading images recorded on originals;
- image forming means (*printer engine, fig. 1*) for forming images on blank sheets based on the read images;

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- stacking means (*paper inserter trays, fig. 2 and fig. 30, col. 7, lines 5-15 and col. 23, lines 44-67*) for stacking a plurality of insert sheets which are to be inserted between said sheets (*interleave sheets, fig. 32d*) having images formed thereon by said image forming means;
- inserter means (*interleave inserter functions, fig. 32d, fig. 34a-b, col. 41, lines 45-65*) for feeding the stacked insert sheets so as to be inserted between said sheets having images formed thereon;
- designating means (*interleave inserter functions, fig. 32d, figs. 34a-b*) for designating at least one insertion position (*i.e. inserts a sheet of white paper between the respective OHP copy, col. 41, lines 60-65*) in said sheets having images formed thereon for insertion of at least one of the insert sheets by said inserter means;
- detecting means (*paper detector means for detecting presence/absence of media in paper trays, col. 21, lines 60-67 and col. 22, lines 48-60*) for detecting an insert sheet when a plurality of positions have been designated by said designating means; and

However, Inoue teaches an image forming apparatus includes stacking means and discharging means but fails to explicitly teach (1) a stacking means for stacking a plurality of bundles of insert sheets each for a plurality of pages in a predetermined order of pages in which the insert sheet are to be inserted; and (3) discharging means operable when said detecting means detects that the insert sheet fed by said insert means after printing start has been given is not the sheet to for the top page, for discharging insert sheets onto an escape tray until the insert sheet for the top page is detected.

York, in the same field of endeavor for inserting insertion paper, teaches an image forming apparatus (*image forming apparatus as shown in fig. 2*) having a (1) stacking means (*insert paper tray 60 for stacking plurality of different types of medias 62 in predetermined order, fig. 2-3, col. 1, lines 45-65, col. 6, lines 1-67 and col. 8, lines 5-20*) for stacking a plurality of bundles (*plurality of bundles 62a-62n separated by coded sheet 64, fig. 3 and wherein each bundle contains plurality of sheets*) of insert sheets each for a plurality of pages in a predetermined order of pages in which the insert sheet are inserted, (*col. 8, lines 5-20*); and (3) discharging means (*deflector gate 68, fig. 6*) operable when said detecting means detects that the insert sheet fed by said insert means

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after a printing start instruction has been given is not the sheet to be inserted first *(insertion material sensor SE-2 for detecting types of insert media separated by coded sheet 64, fig. 2, col. 7, lines 25-30 and col. 9, lines 1-16)* for discharging insert sheets onto an escape tray *(forwards the insert sheet to an overflow tray 72, fig. 2, col. 9, lines 1-32)* until the insert sheet for the top page is detected *(incorrect insert sheet continues to be feed and forward to escape tray until the right media is sensed via using coded separate sheet 64, last two steps, fig. 4b, col. 9, lines 9-32 and col. 10, lines 10-30)*.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made by modifying image forming apparatus of Inoue to include an insert sheets supply tray for stacking plurality of different types of insert medias and a discharging means for discharging an insert sheet that is not the sheet to be inserted onto a different tray as taught by York because of a following reason: (●) using a single tray for plurality of different type of insert sheet instead of using plurality of different trays is an advantage of reducing hardware and its associated costs (York, col. 1, lines 40-42); (●) incorporating a reading means as taught by York is to ensure the right insert sheet is inserted, thereby, reducing time and effort of manually (via by operator) checking whether the correct insert sheet is stacked on a insertion paper tray.

The combinations of Inoue and York fail to explicitly teach and/or suggest wherein the insert sheets in each of the bundles (as taught by York) are not all the same and wherein each insert sheet is assigned with identification information.

Coons, in the same field of endeavor for image forming apparatus, teaches a well-known example of wherein the insert sheets in each of the bundles are not all the same (col. 17, lines 13-15) and wherein each insert sheet is assigned with identification information (col. 17, lines 3-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to stack plurality of different insert sheets in a single bundle and to assign an identification to each of the insert sheet as taught by York because of a following reason: (●) to reduce the number of feeder units required in the document integrater (col. 17, lines 13-15); (●) assigning an identification information to each of the

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insert sheet so the image forming apparatus can differentiate a non-insert sheet from insert sheet, doing so, it helps to reduce mixed-up in document processing.

Therefore, it would have been obvious to combine Inoue and York with Coons to obtain the invention as specified in claim 1.

Regarding claim 2, Inoue further discloses an image forming apparatus according to claim 1, wherein said stacking means comprises a plurality of trays (inserter trays, col. 21, lines 60-67 and col. 40, lines 60-67+, fig. 30) for stacking said plurality of insert sheets in a divided manner, the image forming apparatus further comprising selecting means (control panel, fig. 34-35) capable of selecting between two types of stacking modes consisting of a first stacking mode in which a same type of insert sheets (i.e., manual insertion trays, fig. 32d) are stacked on each of said plurality of trays and a second stacking mode in which plural types of insert sheets (insertion sheets can be selected from any plurality of inserter trays, col. 40, lines 60-67 to col. 41, lines 1-67 and fig. 32k) are stacked in order in which they are inserted on each of said plurality of trays, and wherein said discharging means discharges insert sheets from while said second stacking mode is selected by said selecting means. Also see York's reference for stacking modes.

Regarding claim 3, Inoue further discloses an image forming apparatus according to claim 1, further comprising post-processing means (i.e. output bins, fig. 30 and 32d) for stacking said sheets having images formed thereon by said image forming means in a fashion mixed with insert sheets inserted by said inserter means, and for carrying out post-processing on the mixedly stacked sheets. Also see York's reference for more details regarding different output trays.

Regarding claim 4, Inoue further discloses an image forming apparatus according to claim 3, wherein said discharging means discharges said insert sheets to a location other (output bins sorter, fig. 30 and 32m) than said post-processing means. Also see York's reference for more details regarding different output trays.

Regarding claim 5, Inoue further discloses an image forming apparatus according to claim 1, comprising a conveyance path (col. 19, lines 8-20) for insert sheets, and wherein said detecting means is provided on said conveyance path for insert sheets.

Regarding claims 14-18: Claims 14-18 are the methods corresponding the apparatus and recite limitations that are similar and in the same scope of invention as to those in claims 1-5; therefore, claims 14-18 are rejected for the same rejection rationale/basis as described in claims 1-5 above.

Regarding claim 6, Inoue discloses an image forming apparatus (*fig. 2a*) comprising:

- inputting means (*scanner, fig. 1*) for reading images recorded on originals;
- image forming means (*printer engine, fig. 1*) for forming images on blank sheets based on the read images;
- stacking means (*paper inserter trays, fig. 2 and fig. 30, col. 7, lines 5-15 and col. 23, lines 44-67*) for stacking a plurality of insert sheets which are inserted between said sheets (*interleave sheets, fig. 32d*) having images formed thereon by said image forming means;
- inserter means (*interleave inserter functions, fig. 32d, fig. 34a-b, col. 41, lines 45-65*) for feeding the stacked insert sheets so as to be inserted between said sheets having images formed thereon;
- designating means (*interleave inserter functions, fig. 32d, figs. 34a-b*) for designating at least one position (*i.e. inserts a sheet of white paper between the respective OHP copy, col. 41, lines 60-65*) in said sheets having images formed thereon for insertion of at least one of the insert sheets by said inserter means;
- detecting means (*paper detector means for detecting presence/absence of media in paper trays, col. 21, lines 60-67 and col. 22, lines 48-60*) for detecting an insert sheet when a plurality of positions have been designated by said designating means;

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- interrupting means (*interrupt 315, fig. 26*) for interrupting a sheet insertion function of said insert means when at least one of the insert sheets has jammed while being inserted by said insert means; and

However, Inoue teaches an image forming apparatus includes stacking means and discharging means but fails to explicitly teach a (1) stacking means for stacking a plurality of bundles of insert sheets for a plurality of pages in a predetermined order of pages in which the insert sheet are inserted; (3) and discharging means operable when said detecting means detects that the insert sheet fed by said insert means after a restart of the sheet inserting operation is not the sheet for the top page for discharging insert sheets onto an escape tray until the insert sheet to be inserted first is detected, and for further discharging insert sheets up to an insert sheet immediately preceding a same page of insert sheet as the at least one jammed insert sheet.

York, in the same field of endeavor for inserting insertion paper, teaches an image forming apparatus (*image forming apparatus as shown in fig. 2*) having a (1) stacking means (*insert paper tray 60 for stacking plurality of different types of medias 62 in predetermined order, fig. 2-3, col. 1, lines 45-65, col. 6, lines 1-67 and col. 8, lines 5-20*) for stacking insert sheets in a predetermined order in which the insert sheet are inserted (*col. 8, lines 5-20*); (2) reading means (*fig. 2, col. 5, lines 17-21 and col. 7, lines 25-37*) for reading identification information assigned to the insert sheets and generating an output indicating the reading identification information; and (3) discharging means (*deflector gate 68, fig. 6*) operable when said detecting means detects that the insert sheet fed by said insert means is not the sheet to be inserted first (*fig. 2, col. 7, lines 25-30 and col. 9, lines 1-16*) for discharging insert sheets onto an escape tray (*forwards the insert sheet to an overflow tray 72, fig. 2, col. 9, lines 1-32*) until the insert sheet for top page is detected (*insert sheet continues to be feed until the right insert sheet detected, last two steps, fig. 4b, col. 9, lines 9-32 and col. 10, lines 10-30*), and for further discharging insert sheets up to an insert sheet immediately preceding a same page of insert sheet as at least one jammed insert sheet (*fig. 4b, col. 9, lines 9-32 and col. 10, lines 10-30*).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify an image forming apparatus of Inoue to include an insert

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sheets supply tray for stacking plurality of different types of insert medias and a discharging means for discharging insert sheet fed is not the sheet to be inserted, then discharging the sensed insert sheets onto a different tray as taught by York because of a following reason: (●) to reduce down time due to jam sheets and required minimum attendance by an operator (York, col. 1, lines 45-49); using a single tray for plurality of different type of insert sheet is an advantage of reducing hardware costs (York, col. 1, lines 40-42); (●) incorporating a reading means as taught by York is to ensure the right insert sheet is inserted, thereby, reducing time and effort of manually (via by operator) checking whether the correct insert sheet is stacked on a insertion paper tray.

The combinations of Inoue and York fail to explicitly teach and/or suggest wherein the insert sheets in each of the bundles (as taught by York) are not all the same and wherein each insert sheet is assigned with identification information.

Coons, in the same field of endeavor for image forming apparatus, teaches a well-known example of wherein the insert sheets in each of the bundles are not all the same (col. 17, lines 13-15) and wherein each insert sheet is assigned with identification information (col. 17, lines 3-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to stack plurality of different insert sheets in a single bundle and to assign an identification to each of the insert sheet as taught by York because of a following reason: (●) to reduce the number of feeder units required in the document integrater (col. 17, lines 13-15); (●) assigning an identification information to each of the insert sheet so the image forming apparatus can differentiate a non-insert sheet from insert sheet, doing so, it helps to reduce mixed-up in document processing.

Therefore, it would have been obvious to combine Inoue and York with Coons to obtain the invention as specified in claim 6.

Regarding claim 7, Inoue further discloses an image forming apparatus according to claim 1, wherein said stacking means comprises a plurality of trays (inserter trays, col. 21, lines 60-67 and col. 40, lines 60-67+, fig. 30) for stacking said plurality of insert sheets in a divided manner, the image forming apparatus further comprising selecting

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means (control panel, fig. 34-35) capable of selecting between two types of stacking modes consisting of a first stacking mode in which a same type of insert sheets (i.e., manual insertion trays, fig. 32d) are stacked on each of said plurality of trays and a second stacking mode in which plural types of insert sheets (insertion sheets can be selected from any plurality of inserter trays, col. 40, lines 60-67 to col. 41, lines 1-67 and fig. 32k) are stacked in order in which they are inserted on each of said plurality of trays, and wherein said discharging means discharges insert sheets while said second stacking mode is selected by said selecting means.

Regarding claim 8, Inoue further discloses an image forming apparatus according to claim 1, further comprising post-processing means (i.e. output bins, fig. 30 and 32d) for stacking said sheets having images formed thereon by said image forming means in a fashion mixed with insert sheets inserted by said inserter means, and for carrying out post-processing on the mixedly stacked sheets. Also see York's reference for more details regarding different output trays.

Regarding claim 9, Inoue further discloses an image forming apparatus according to claim 3, wherein said discharging means discharges said insert sheets to a location other (output bins sorter, fig. 30 and 32m) than said post-processing means. Also see York's reference for more details regarding different output trays.

Regarding claim 10, Inoue further discloses an image forming apparatus according to claim 1, comprising a conveyance path (col. 19, lines 8-20) for insert sheets, and wherein said detecting means is provided on said conveyance path for insert sheets.

Regarding claims 19-23: Claims 19-23 are the methods corresponding the apparatus and recite limitations that are similar and in the same scope of invention as to those in claims 6-10; therefore, claims 19-23 are rejected for the same rejection rationale/basis as described in claims 6-10 above.

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Regarding claims 40-41, York further teaches an image forming apparatus, wherein said reading means read code information (coded insert sheet, abstract, col. 5, lines 15-20 and col. 7, lines 58 to col. 8, lines 5) that is the identification information assigned to the insert sheets (col. 9, lines 53-67).

Claims 42-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue, York, and Coons as applied to claims 1 & 6 above, and further in view of Austin et al (US 5488223).

Regarding claims 42-43, combinations of Inoue and York fail to teach and/or suggest wherein the code information is a barcode.

Austin, in the same field of endeavor for printing, teaches a well-known example of wherein code information is represented by a barcode (barcode, fig.3b).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use barcode for print media identification purposes (i.e. to identify media type and/or size) because barcode is readable by plurality of different reading devices (i.e. handheld scanner, optical scanner, and etc), cost effective, and widely adaptable by plurality of industry sectors.

Therefore, it would have been obvious to combine Inoue & York with Austin to obtain the invention as specified in claims 42-43.

Regarding claims 44-45, Austin further teaches reading means read a page number that is the identification information assigned to the insert sheets (fig. 3a). Barcode as taught by Austin can be used to represent any identification purposes such as page number, user's name, date, address, and etc.

Response to Arguments

- Applicants request clarification regarding the restriction status of claims 11-13 and 24-26. In response, since claims 11-13 and 24-26 have been canceled, therefore, restriction requirement has been withdrawn and these claims are no longer pending in this application.

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- Applicant's arguments, see pages 9-10, filed 10/13/06, with respect to the rejection(s) of claim(s) 1 & 6 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art reference.

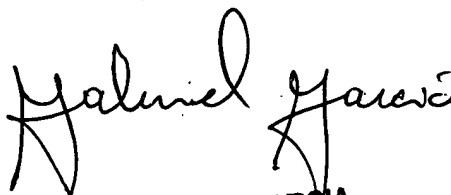
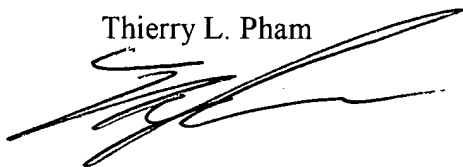
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thierry L. Pham whose telephone number is (571) 272-7439. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thierry L. Pham



GABRIEL I. GARCIA
PRIMARY EXAMINER